

Geologists solve ancient mystery

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Geologists at the University of Leicester have solved a puzzle found in rocks half a billion years old.

Some of the most important fossil beds in the world are the Burgess Shales in the Canadian Rockies. Once an ancient sea bed, they were formed shortly after life suddenly became more complex and diverse – the so-called Cambrian explosion – and are of immense scientific interest.

Normally, only hard parts of ancient animals became fossilised; the bones, teeth or shells. Soft parts were rarely preserved: many plants and invertebrate animals evolved, lived for millions of years and became extinct, but left no trace in the fossil record. The Burgess Shales preserved soft tissue in exquisite detail, and the question of how this came to happen has troubled scientists since the discovery of the fossils in 1909.

Now, painstaking work by Sarah Gabbott and Jan Zalasiewicz of the University of Leicester, with Desmond Collins of the Royal Ontario Museum, has provided an answer. The research has been published in the *Journal of the Geological Society*.

They analysed the shales millimetre by millimetre, and found that unlike most rocks of this type, they weren't slowly deposited, mud flake by mud flake. Instead, a thick slurry powered down a steep slope and instantly buried the animals to a depth where normal decay couldn't occur.

Dr Gabbott said: “Not a nice way to go, perhaps, but a swift one- and one that guaranteed immortality (of a sort) for these strange creatures.”

Source: University of Leicester

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